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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,266	03/18/2004	Tetsujiro Kondo	450100-02178.1	7452
20999	7590	06/15/2005	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			KUMAR, PANKAJ	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/804,266

Applicant(s)

KONDO ET AL.

Examiner

Pankaj Kumar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18,19,26,27 and 34 is/are rejected.
- 7) ☒ Claim(s) 21-25 and 28-33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/18/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/434,788.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/26/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 18-25 are objected. "the learned processing method" at the bottom of claim 18 is objected to since it is not explicitly defined earlier. Claims 19-25 depend on claim 18 and hence they are also objected to.
2. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 18-19, 26, 27, 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nobakht USPN 5,692,011.
5. As per claim 18: A data processing apparatus for processing input data and outputting the processed data, comprising: data processor (Nobakht fig. 5: top feed forward filter) configured (Nobakht fig. 5: coefficient adjustment for top feed forward filter) to process the input data (Nobakht fig. 5: left input into the top feed forward filter) by a predetermined processing method (Nobakht fig. 5: taps of top feedforward filter) and output the processed data as output data (Nobakht fig. 5: right output of top feed forward filter); input-data evaluator (Nobakht fig. 5: bottom feed forward filter with its output going to the bottom summer) configured (Nobakht fig. 5: coefficient adjustment for bottom feed forward filter) to evaluate the input data (Nobakht fig.

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5: left input into the bottom feed forward filter) and calculate a reliability of the input data (Nobakht fig. 5: $e_2(k)$ error is the reliability); output-data evaluator (Nobakht fig. 5: top decision element) configured (Nobakht col. 2 lines 32-35: "When the optimum configuration has been reached the outputs of the receiver decision element, i.e. the self-decided symbols, are correct with very high probability and can be used") to evaluate the output data (Nobakht fig. 5: output from top feedforward filter via summer) and calculate a reliability of the output data (Nobakht fig. 5: $e_1(k)$), and real-time learning portion (Nobakht fig. 5: feedback filter with its coefficient adjustment) configured (Nobakht fig. 5: configured by the coefficient adjustment) to control the data processing apparatus (Nobakht fig. 5: output of the feedback filter controls the top feedforward filter via the top coefficient adjustment) such that the processing method is learned in real time (Nobakht fig. 5: coefficients are adjusted or learned in real-time) according to the reliability of the input data (Nobakht fig. 5: $e_2(k)$ error is the reliability) calculated by said input-data evaluator (Nobakht fig. 5: bottom feed forward filter with its output going to the bottom summer) and the reliability of the output data (Nobakht fig. 5: $e_1(k)$) calculated by said output-data evaluator (Nobakht fig. 5: top decision element), and said data processor (Nobakht fig. 5: top feed forward filter) processes the input data (Nobakht fig. 5: left input into the top feed forward filter) according to the learned processing method (Nobakht fig. 5: coefficients are learned or adjusted in real time).

6. What Nobakht does not teach is that the processing method is learned according to the reliability of the input data and the reliability of the output data since the reliabilities are going through various components. The office takes official notice that even though the reliabilities are going through various components the reliability affects the learning or the adjustment based

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on the interconnections. Thus, it would have been obvious, to one of ordinary skill in the art, at time the invention was made, to modify the prior art teaching of Nobakht with processing method is learned according to the reliability of the input data and the reliability of the output data as indicated by the instant claims, because Nobakht suggests reliabilities are going through various components which eventually affect the adjustment or learning in the analogous art of processing.

7. As per claim 19: A data processing apparatus according to Claim 18, further comprising an input-data storage unit for storing a predetermined number of time-sequentially input data (Nobakht fig. 1a: inputs are sequentially moved through the delays T and processed).

8. Claims 26 and 27 are discussed above with respect to claims 18 and 19.

9. As per claim 34, it is discussed above with respect to claim 18. As per programming, Nobakht discusses programming in col. 1 line 56 with programmable DSPs.

Allowable Subject Matter

10. Claims 21-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and also rewritten to resolve the objection discussed in the claim objections section.

11. Claims 28-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

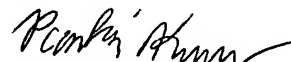
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Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (571) 272-3011. The examiner can normally be reached on Mon, Tues, Thurs and Fri after 8AM to after 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Pankaj Kumar
Patent Examiner
Art Unit 2631

PK